**Project Description:**

The training program of this PhD course reflects the multidisciplinary nature of the included sections, with activities open to all interested PhD candidates. The course brings together specialists from both related fields (medicine, nephrology, endocrinology, hematology, infectious diseases, pulmonology, hepatology, geriatrics, rheumatology, dermatology, gastroenterology) and seemingly disparate fields (maxillofacial surgery, motor sciences, pharmacology). These disciplines find common ground in cross-sectional projects essential for both clinical and research training, facilitated by the sharing of personnel and equipment.

Among the possible fields for training, development, and research, the following are proposed:   
-the study of the main molecular mechanisms and pathophysiological phenomena linking inflammation to various chronic diseases (such as inflammatory and non-inflammatory rheumatologic diseases, inflammatory and non-inflammatory gastroenterologic diseases, inflammatory and non-inflammatory dermatologic diseases, cardiovascular diseases, inflammatory and autoimmune renal diseases in addition to chronic kidney disease, respiratory diseases, sarcopenia, the various mechanisms related to the aging process, and various neoplastic diseases);   
-the study of the epidemiology, genetics, and pathophysiology of insulin resistance and its related conditions (such as obesity, type 2 diabetes, dyslipidemia, arterial hypertension, and non-alcoholic fatty liver disease);   
-the study of stem cells in regenerative medicine and in immunoregulatory and anti-tumor cell therapy; osteoimmunology; and other topics that will become operational during the current year and in the future years.

The training commitment in terms of CFU is 8+8+4 ECTS (1st+2nd+3rd year of the course), allowing PhD candidates a wide variety of choices among a multitude of interdisciplinary, multidisciplinary, and transdisciplinary courses offered by the Doctoral School. It should be noted that the equivalence between hours and CFU is the usual 1 CFU = 4 hours.

The evaluation of each PhD candidate is entrusted to the respective tutor and is based on the degree of interest and participation in research, as well as the personal contribution to the drafting of papers and abstracts for conferences.

Objectives of the Course

The objectives of the course are to enable each PhD candidate to acquire the following skills:

1. Critically search for international literature on the web to plan basic and clinical research.
2. Use laboratory tools and equipment for in vivo and in vitro scientific research.
3. Interpret results using appropriate and adequate statistical analysis methods.
4. Write abstracts and scientific papers suitable for publication in journals indexed on PubMed.
5. Present the main findings of their research at national and international conferences using appropriate digital tools, including the ability to independently prepare suitable slides using PowerPoint and other software.
6. Develop effective strategies for the exploitation of research results.

In this course, PhD candidates, under the supervision of their Tutor, are expected to actively participate in the scientific activities of the various research groups already present at the University of Verona, thus increasing the critical mass of individuals involved in scientific research. It is anticipated that this will contribute to a higher quality and quantity of scientific production in the various areas of the biomedical sector, facilitating broader and more fruitful access to competitive research funding at both national and international levels.

**Career Opportunities:**

The course aims to provide PhD candidates with the theoretical foundations and appropriate methodological knowledge to conduct research in various fields of biomedical sciences. In this way, PhD candidates will be prepared for the following main career opportunities:

-Integration into research roles and initiation of an academic career.

-Employment in various public and/or private research institutions.

-Employment within healthcare organizations.

-Employment in various production facilities in the biomedical sector and in both public and private biotechnology sectors